

CLAIMS:

1. A process for preparing mechanical pulp, comprising
 - chipping the raw wood material,
 - 5 – pre-treating the chips with an enzyme that is capable of disintegrating the structural parts of the wood, after which
 - mechanical pulp is prepared from the chips by refining,**characterized in that**
 - the enzymatic treatment is carried out by compressing the chips and bringing the
 - 10 compressed chips in a liquid phase into contact with an enzyme preparation containing an effective amount of both cellobiohydrolase and endoglucanase.
2. A method according to Claim 1, **characterized in that** an enzyme preparation is used, containing cellobiohydrolases and endoglucanases in a weight ratio of the proteins of 20:1 – 1:20, preferably in a weight ratio of 9:1 – 1:9.
- 15 3. A method according to Claim 1 or 2, **characterized in that** an enzyme preparation is used, containing cellobiohydrolases and endoglucanases in a weight ratio of the proteins of 5:1 – 1:5, preferably in a weight ratio of 3:1 – 1:3.
4. A method according to any of the preceding claims, **characterized in that** an enzyme preparation is used, containing 2 – 60% by weight, preferably 20 – 55% by
- 20 weight of endoglucanases.
5. A method according to any of the preceding claims, **characterized in that** the enzyme preparation is produced by any production strain that is used industrially.
6. A method according to any of the preceding claims, **characterized in that** the enzyme preparation is produced by a strain belonging to a family that is selected
- 25 from the following group: *Trichoderma*, *Aspergillus*, *Penicillium*, *Humicola*, *Phanerochaete*, *Streptomyces*, and *Bacillus*.
7. A method according to any of the preceding claims, **characterized in that** the enzyme preparation is used in an amount of 0.1 – 7mg of protein per g of chips, preferably 3 – 6mg of protein per g of chips (dry matter).
- 30 8. A method according to any of the preceding claims, **characterized in that** the pulp is refined to obtain a drainability of at least 100ml CSF, preferably at least about 80ml CSF.

9. A method according to any of the preceding claims, characterized in that the chips are compressed by at least 10%.
10. A method according to Claim 9, characterized in that the chips are compressed using a compression ratio of 1:2 – 1:10.
- 5 11. A method according to any of the preceding claims, characterized in that the average chip size of the chips that are subjected to the compression treatment is about 15 – 25mm.
12. A method according to any of the preceding claims, characterized in that the compression treatment is carried out in a screw clamp or a hydraulic press.
- 10 13. A method according to any of the preceding claims, characterized in that the enzyme preparation is allowed to act on the chips for at least 1 minute, preferably about 5 – 100 min before the refiner mechanical pulp is prepared.
14. A method according to any of the preceding claims, characterized in that the chips are steamed before the compression treatment.
- 15 15. A method according to any of the preceding claims, characterized in that the mechanical pulp is prepared by the TMP or the RMP method.
16. The use of the method according to any of the preceding claims for preparing mechanical pulp that is used for paper pulp.
17. A method of reducing the energy consumption of mechanical pulping processes
20 that are based on the refinement of chips, characterized in that, before refining, the chips are treated with an enzyme preparation, which contains cellobiohydrolase and endoglucanase enzymes in a ratio of 20:1 – 1:20 and which is absorbed into the chips by a mechanical compression of the chips and by bringing the compressed chips into contact with the enzyme preparation in a liquid phase.
- 25 18. A method according to Claim 17, characterized in that the chips are refined to obtain a drainability level of < 100ml CSF, preferably < 80ml CSF.